



December 01, 2016

Tom Moe USS Corporation P.O. Box 417 8771 Park Ridge Dr Mountain Iron, MN 55768

RE: Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Dear Tom Moe:

Enclosed are the analytical results for sample(s) received by the laboratory on November 16, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Melisa M Woods

Massia Wirds

melisa.woods@pacelabs.com

Project Manager

Enclosures

cc: Cory Hertling Terri Sabetti, NTS







CERTIFICATIONS

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107 Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470 WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality



SAMPLE SUMMARY

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1279075001	WS-002 Scrubber Make-Up	Water	11/16/16 08:45	11/16/16 13:20
1279075002	WS-003 Thickner Overflow	Water	11/16/16 08:35	11/16/16 13:20



SAMPLE ANALYTE COUNT

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279075001	WS-002 Scrubber Make-Up	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V
1279075002	WS-003 Thickner Overflow	EPA 200.7	MAR	3	PASI-V
		EPA 300.0	DMB	1	PASI-V



ANALYTICAL RESULTS

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Date: 12/01/2016 03:00 PM

Sample: WS-002 Scrubber Make	-Up Lab ID:	1279075001	Collected	d: 11/16/16	08:45	Received: 11/	16/16 13:20 Ma	atrix: Water	
			Report						
Parameters	Results	Units	Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP, Lab Filtered	Analytical	Method: EPA 2	200.7 Prepa	ration Meth	od: EP	A 200.7			
Calcium, Dissolved	110	mg/L	5.0	0.29	10	11/17/16 15:53	11/21/16 09:32	7440-70-2	
Magnesium, Dissolved	216	mg/L	5.0	0.67	10	11/17/16 15:53	11/21/16 09:32	7439-95-4	
Total Hardness, Dissolved	1160	mg/L	100	50.0	10	11/17/16 15:53	11/21/16 09:32		
300.0 IC Anions 28 Days	Analytical	Method: EPA	300.0						
Sulfate	801	mg/L	20.0	10.0	10		11/29/16 21:03	14808-79-8	
Sample: WS-003 Thickner Overf	low Lab ID:	1279075002	Collected	d: 11/16/16	3 08:35	Received: 11/	16/16 13:20 Ma	atrix: Water	
Sample: WS-003 Thickner Overf	low Lab ID:	1279075002	Collected	d: 11/16/16	8 08:35	Received: 11/	16/16 13:20 Ma	atrix: Water	
Sample: WS-003 Thickner Overf Parameters	Results	1279075002 Units		d: 11/16/16	08:35 DF	Received: 11/	16/16 13:20 Ma	atrix: Water CAS No.	Qual
Parameters	Results		Report Limit	MDL	DF	Prepared			Qual
·	Results	Units	Report Limit	MDL	DF	Prepared		CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered	Results Analytical	Units Method: EPA 2	Report Limit 200.7 Prepa	MDL	DF nod: EP	Prepared A 200.7	Analyzed	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved	Results Analytical	Units Method: EPA 2 mg/L	Report Limit 200.7 Prepa	MDL tration Meth	DF nod: EP/	Prepared A 200.7 11/17/16 15:53	Analyzed 11/21/16 09:35	CAS No.	Qual
Parameters 200.7 MET ICP, Lab Filtered Calcium, Dissolved Magnesium, Dissolved	Analytical 766 69.6 2200	Units Method: EPA 2 mg/L mg/L	Report Limit 200.7 Prepa 5.0 5.0 100	MDL tration Meth 0.29 0.67	DF nod: EP/ 10 10	Prepared A 200.7 11/17/16 15:53 11/17/16 15:53	Analyzed 11/21/16 09:35 11/21/16 09:35	CAS No.	Qual



QUALITY CONTROL DATA

USS MinnTac NPDES-LINE 3 Project:

Pace Project No.: 1279075

QC Batch Method:

QC Batch:

100413

EPA 200.7

Analysis Method:

EPA 200.7

Analysis Description:

Matrix: Water

200.7 MET Dissolved

MDL

Associated Lab Samples: 1279075001, 1279075002

METHOD BLANK: 398757

Magnesium, Dissolved

Calcium, Dissolved

Magnesium, Dissolved

Date: 12/01/2016 03:00 PM

Parameter

Associated Lab Samples:

1279075001, 1279075002

Blank

Reporting

50.6

51.6

MS

81.4

138

Parameter Units Calcium, Dissolved mg/L Magnesium, Dissolved mg/L Result ND ND Limit 0.50 0.50

0.029 11/21/16 08:50 0.067 11/21/16 08:50

Qualifiers Analyzed

LABORATORY CONTROL SAMPLE: 398758

Spike Parameter Units Conc. Calcium, Dissolved mg/L

Units

mg/L

mg/L

Result 50 50

% Rec 101

LCS

Limits Qualifiers

85-115 103 85-115

98

% Rec

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

398759

30.3

88.6

MS

Spike

Conc.

50

50

mg/L

1279157001

Result

398760

LCS

MSD Spike Conc. Result

50

50

MSD MS Result % Rec

81.2

140

MSD % Rec % Rec 102

102

102

Limits **RPD** RPD 70-130

0 20 70-130 20

Max

Qual

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALITY CONTROL DATA

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Date: 12/01/2016 03:00 PM

QC Batch: 100934 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1279075001, 1279075002

METHOD BLANK: 401135 Matrix: Water

Associated Lab Samples: 1279075001, 1279075002

Blank Reporting
Parameter Units Result Limit MDL Analyzed Qualifiers

Sulfate mg/L ND 2.0 1.0 11/29/16 19:13

LABORATORY CONTROL SAMPLE: 401136

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Sulfate mg/L 50 49.8 100 90-110

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 401137 401138

MS MSD 1278950003 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits RPD RPD Qual Sulfate 90-110 0 20 mg/L 15.0 50 50 66.2 66.3 102 102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 401139 401140

MS MSD 1279407002 MS MSD MS Spike Spike MSD % Rec Max Limits RPD Parameter Units Result Conc. Conc. Result Result % Rec % Rec RPD Qual Sulfate 20.4 250 250 275 275 102 102 90-110 0 20 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



QUALIFIERS

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

Date: 12/01/2016 03:00 PM

PASI-V Pace Analytical Services - Virginia



QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: USS MinnTac NPDES-LINE 3

Pace Project No.: 1279075

Date: 12/01/2016 03:00 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1279075001 1279075002	WS-002 Scrubber Make-Up WS-003 Thickner Overflow	EPA 200.7 EPA 200.7	100413 100413	EPA 200.7 EPA 200.7	100440 100440
1279075001 1279075002	WS-002 Scrubber Make-Up WS-003 Thickner Overflow	EPA 300.0 EPA 300.0	100934 100934		

The Chain-of-Custody is a LEGAL DC CHAIN-OF-CUSTODY / /

WO#:1279075

CLIENT: USS CORP Due Date: 12/02/16

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		1000	10	ADDITIONAL COMMENTS				:					T T T T T T T T T T T T T T T T T T T		WS-003 Thickner Overflow	WS-002 Scrubber Make-Up	SAMPLE ID One Character per box. (A-Z, 0-9 I, -) Sample ids must be unique	vednesied Die Dele	Fax	77.484	25	y: USS Corporation P.O. Roy 417	Ωie
	THE PROPERTY OF THE PROPERTY O																MATRIX Drinking Walter Water Waste Water Product Spil/Solid Oil Wipe Air Other Tissue CO06 CO06 CO16 CO17 CO17 CO17 CO17 CO17 CO17 CO17 CO17	Project #:	Project Name:	Purchase Order#		Report To:	Section B Required Project Information:
			1	RELINO											¥	WT	MATRIX CODE (see valid codes to left)			Order#:		Tom Moe	Project
			aul												1176	11-71	SAMPLE TYPE (G=GRAB C=COMP)		NPDES-			Moe	Informat
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Pace Analytical **

Document Name:

Sample Condition Upon Receipt Form

Document No.: F-VM-C-001-Rev.09 Document Revised: 23Feb2015 Page 1 of 1

Issuing Authority:

Pace Virginia, Minnesota Quality Office

Sample Condition Client Name: Upon Receipt)		Project	# WO#:1279075
Courier: Fed Ex UPS Commercial Pace Tracking Number:	USPS Other:	<u> </u>	Client	1279075
Custody Seal on Cooler/Box Present? Yes 🛮	, No	Seals I	ntact? [Yes No Optional: Proj. Due Date: Proj. Name:
Packing Material: Bubble Wrap Bubble Ba	zs 🖍 N	one [Other:	Yes _No
hermometer Used: 140792808				Blue None Samples on ice, cooling process has begu
Cooler Temp Read °C: 29 Cooler Temp Coemp should be above freezing to 6°C Correction Fact	orrected * or:	c:	32	Biological Tissue Frozen? Yes No Initials of Person Examining Contents: CL 11-16-15 Comments:
Chain of Custody Present?	Z Yes	∏No	□N/A	1.
Chain of Custody Filled Out?	Yes	□No	□N/A	2.
Chain of Custody Relinquished?	⊘ Yes	□No	□N/A	3.
Sampler Name and Signature on COC?	Yes	□No	□N/A	4.
Samples Arrived within Hold Time?	Yes	□No	□N/A	5.
Short Hold Time Analysis (<72 hr)?	∐Yes	ØΝο	□N/A	6.
Rush Turn Around Time Requested?	Yes	, ⊠w∘	□n/a	7.
Sufficient Volume?	Z Yes	□No	□N/A	8.
Correct Containers Used?	✓Yes	□No	□N/A	9.
-Pace Containers Used?	∠Yes	∭No	□N/A	
Containers Intact?	Z Yes	□No	□N/A	10.
Filtered Volume Received for Dissolved Tests?	Yes	□ No	☑N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix:	Yes	□No	□N/A	12.
All containers needing acid/base preservation will be checked and documented in the pH logbook.	☐Yes	∏No	□M7A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	□Yes	□No	☑N/A	13.
Headspace in VOA Vials (>6mm)?	□Yes	□No	ÆN/A	14.
Trip Blank Present?	Yes	□No	ДN/A	15.
Trip Blank Custody Seals Present?	Yes	□No	∑ N/A	
Pace Trip Blank Lot # (if purchased):				
LIENT NOTIFICATION/RESOLUTION Person Contacted:			r	Field Data Required? Yes No Date/Time:
Comments/Resolution:				vate/ fillie:
				
ECAL WAIVER ON FILE Y N		TENA	DERATIII	RE WAIVER ON FILE Y N

Project Manager Review: Date: 1/16/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)